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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/761,858	01/21/2004	Alain Charles Louis Briancon	1-2-0424.1US	3069

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EXAMINER	
DESIR, PIERRE LOUIS	
ART UNIT	**PAPER NUMBER**
2617	

DATE MAILED: 12/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/761,858	BRIANCON ET AL.	
	Examiner	Art Unit	
	Pierre-Louis Desir	2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *02 October 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-4,9-11 and 14* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-4,9-11 and 14* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 10/02/2006 has been entered.

Response to Arguments

2. Applicant's arguments filed on 10/02/2006 have been fully considered but they are not persuasive.

Applicants argue that neither Vucetic nor Mortensen disclose placing the radio link into a busy state such that only one RRM algorithm can be executed and operate on the radio link at a time, the radio link remaining in the busy state for the duration of an RRM algorithm's execution.

Examiner respectfully disagrees.

Vucetic discloses in section 7.2, " a multi-algorithm dynamic channel allocation mechanism consists of several channel allocation algorithms residing at the same time in the switch of a cellular network. The algorithms are selected so that each one of them provides a significant performance advantage in comparison to the others under the given traffic and interference conditions. An algorithm becomes active in the network when the actual measured traffic and interference conditions indicate that this algorithm would provide the best

performance in comparison to the other algorithms implemented in the switch. The algorithm becomes passive when the traffic and interference conditions change so that another algorithm is expected to provide a better performance. **Only one of the algorithms can be active in the network at a time**.

From the Applicant's specification, it appears that the placing of the radio link into a busy state only applies to preventing **other algorithms from being executed.**

With Vucetic disclosure in section 7.2, that "**only one of the algorithms can be active in the network at a time**", it would have been obvious to one skilled in the art that the other algorithms would be able to be executed while the selected algorithm is active. Therefore, the network would be in the busy state when it comes to the other not-selected algorithms.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1-2, 7, 9, and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mortensen et al. (Mortensen), Pub. No. US 2003/0096608 in view Vucetic et al. (Vucetic), "Implementation and Performance Analysis of Multi-Algorithm Dynamic Channel Allocation in a Wideband Cellular Network", 1996 IEEE International Conference on Communications (ICC), Vol. 3, June 1996, pp. 1270-1274.

Regarding claim 1, Mortensen discloses a method for scheduling radio resource management (RRM) algorithms on a radio link by coordinating the RRM algorithms (see page 2, paragraph 24), comprising the steps of: receiving an event (i.e. a congestion situation is detected by the RNC) (see fig. 1, page 2, paragraph 30); selecting at least one RRM algorithm to resolve the event, wherein the RRM algorithms are selected based on the event received (i.e. in response to the detection of the congestion, and after an inherent evaluation, the RNC makes a selection) (see fig. 1, page 2, paragraph 30 and 33).

Although, Mortensen discloses a method as described above, Mortensen does not specifically disclose a method further comprising the steps of invoking the selected RRM algorithm; analyzing the results of the invoked RRM algorithms; determining a subset of the selected RRM algorithms to be executed to achieve an optimal result to resolve the event received, wherein the subset of RRM algorithms is based on the results of the analyzing step; executing the subset of the determined RRM algorithms, and placing the radio link into a busy state such that only one RRM algorithm can be executed and operate on the radio link at a time, the radio link remaining in the busy state for the duration of an RRM algorithm's execution.

However, Vucetic discloses a method comprising the steps of invoking the selected RRM algorithm (if the algorithm transition is needed, the switch activates the new algorithm) (see section 7.2); analyzing the results of the invoked RRM algorithms (i.e., the algorithms are selected so that each one of them provides a significant performance advantage in comparison to the others under the given traffic and interference conditions) (see sections 4 and 7.2); determining a subset of the selected RRM algorithms to be executed to achieve an optimal result to resolve the event received, wherein the subset of RRM algorithms is based on the results of

the analyzing step (i.e., to use a multi-algorithm dynamic channel allocation mechanism includes several channel allocation algorithms implemented at the same time in *the* switch of a cellular network. The algorithms are selected so that each one of them provides a significant performance advantage in comparison to the others under the given traffic and interference conditions) (see sections 4 and 7.2); executing the subset of the determined RRM algorithms (i.e., an algorithm becomes active in the network when the actual measured offered load and interference conditions indicate that this algorithm would provide the best performance in comparison to the other algorithm implemented in the switch) (see sections 4 and 7.2), and placing the radio link into a busy state such that only one RRM algorithm can be executed and operate on the radio link at a time, the radio link remaining in the busy state for the duration of an RRM algorithm's execution (i.e., from the Applicant's specification, it appears that the placing of the radio link into a busy state only applies to preventing **other algorithms from being executed.** With Vucetic disclosure in section 7.2, that "**only one of the algorithms can be active in the network at a time**", it would have been obvious to one skilled in the art that the other algorithms would be able to be executed while the selected algorithm is active. Therefore, the network would be in the busy state when it comes to the other not-selected algorithms).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings as described to arrive at the claimed invention. A motivation for doing so would have been to provide a method wherein the algorithm becomes passive when the traffic and interference conditions change so that another algorithm is expected to provide better performance.

Regarding claim 2, Mortensen discloses a method (see claim 1 rejection) including preparing a set of predicted measurements (i.e. parameter set) for use by the other RRM algorithms in the subset (see page 2-3, paragraph 34).

Regarding claims 7 and 14, Mortensen discloses a method as described in claims 2 and 9, wherein the set of predicted measurements (i.e. parameter set) (see paragraph 27) is stored in a centralized database (i.e. server) (see paragraph 27).

Regarding claim 9, Mortensen discloses a method for scheduling radio resource management (RRM) algorithms by coordinating RRM algorithms (see page 2, paragraph 24), comprising the steps of: receiving an event wherein at least one RRM algorithm is associated with event (see fig. 1, page 2, paragraph 30); performing the RRM algorithm on the radio link (i.e. Mortensen discloses a way of controlling load (congestion) on communication network by rejecting communication request through forbidding the mobile station to access the channel for some specified length of time; preparing a set of predicted measurements for use by the other RRM algorithms (see page 2-3, paragraphs 34 and 37); and placing the radio link into an idle state, whereby the radio link is accessible by any RRM algorithm (i.e. when the congestion situation, for instance, is over, the RNC select an interleaving length to be utilized accordingly; thus, one skilled in the art would unhesitatingly conceptualize that placement of the communication link into idle state takes place when the congesting situation is over) (see page 2, paragraph 32).

Although Mortensen discloses a method as described, Mortensen does not specifically disclose a method comprising placing a radio link into a busy state for the duration of an RRM

algorithm's execution, whereby all other RRM algorithms are denied access to the radio link until completion of the RRM algorithm.

However, Vucetic discloses a method comprising placing a radio link into a busy state for the duration of an RRM algorithm's execution, whereby all other RRM algorithms are denied access to the radio link until completion of the RRM algorithm (i.e., from the Applicant's specification, it appears that the placing of the radio link into a busy state only applies to preventing **other algorithms from being executed.** With Vucetic disclosure in section 7.2, that "**only one of the algorithms can be active in the network at a time**", it would have been obvious to one skilled in the art that the other algorithms would be able to be executed while the selected algorithm is active. Therefore, the network would be in the busy state when it comes to the other not-selected algorithms).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings as described to arrive at the claimed invention. A motivation for doing so would have been to provide a method wherein the algorithm becomes passive when the traffic and interference conditions change so that another algorithm is expected to provide better performance.

5. Claims 3-4, 10-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mortensen and Vucetic further in view of Applicant admitted prior art (Admission), Pub. No. US 20040209633.

Regarding claims 3 and 10, the combination discloses a method as described above (see claims 1 and 9 rejections).

Although the combination discloses a method as described, the combination does not specifically disclose a method wherein the RRM algorithms include configuring a radio link.

However, Admission discloses in the background section of a method executing algorithm makes a decision to configure or reconfigure one of the radio links (RLs) or timeslots. Upon making the decision, the algorithm signals the new configuration throughout the entire system (see paragraph 3).

Therefore, it would have been obvious to one skilled in the art at the time of the invention to combine the teachings to arrive at the claimed invention. A motivation for doing so would have been to improve the performance of the network.

Regarding claims 4 and 11, the combination discloses a method as described above (see claim 1 rejection).

Although the combination discloses a method as described, the combination does not specifically disclose a method wherein the RRM algorithms include reconfiguring a radio link.

However, Admission discloses in the background section of a method executing algorithm makes a decision to configure or reconfigure one of the radio links (RLs) or timeslots. Upon making the decision, the algorithm signals the new configuration throughout the entire system (see paragraph 3).

Therefore, it would have been obvious to one skilled in the art at the time of the invention to combine the teachings to arrive at the claimed invention. A motivation for doing so would have been to improve the performance of the network.

6. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mortensen and Vucetic in further view of Lu, U.S. Patent No. 6771624.

Regarding claim 8, Mortensen discloses a method as described in claim 1 rejection (see claim 1 rejection above).

Although Vucetic discloses a method wherein the multi-algorithm channel allocation mechanism provides a significant improvement in network performance (maximize throughput) because it selects the most superior available channel allocation algorithm with respect to the actual traffic and interference conditions, the combination does not specifically discloses a method further comprising the step of ordering the subset of RRM algorithms.

However, Lu discloses a method for managing a plurality of RRM algorithm by defining algorithm priority levels before the execution process (see col. 3, lines 6-14)

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to combine both methods to arrive at the claimed invention. A motivation to do so would have been to obtain optimum efficiency with the method (see col. 3, lines 6-8).

Allowable Subject Matter

7. Claims 5-6 and 12-13 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Pierre-Louis Desir whose telephone number is (571) 272-7799. The examiner can normally be reached on Monday-Friday 8:00AM- 5:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Feild can be reached on (571) 272-4090. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Pierre-Louis Desir
12/10/2006

JOSEPH FEILD
SUPERVISORY PATENT EXAMINER